

What is claimed is:

1. A dualduplexer having a matrix structure, comprising:

5 a dualduplexing means including a transmitting input unit, a receiving input unit, a transmitting output unit and a receiving output unit, wherein the transmitting input unit, the receiving input unit, the transmitting output unit and the receiving output unit are used in common and  
10 the transmitting input unit, the receiving input unit, the transmitting output unit and the receiving output unit are connected in the form of a matrix.

2. The dualduplexer having a matrix structure as recited in claim 1, further comprising:

a low noise amplifying means for performing low noise amplification on a signal outputted from an input port of the dualduplexing means; and

20 a high power amplifying means for performing high power amplification on the signal outputted from the low noise amplifying means and transmitting the amplified signal to the dualduplexing means.

3. The dualduplexer having a matrix structure as recited in claim 1, wherein the dualduplexing means includes:

a first port for transmitting/receiving signals to and from a base station;

30 a second port for outputting the signals with separated frequency which are inputted from the transmitting input unit and the receiving input unit to the low noise amplifier;

a third port for receiving a signal from the high power amplifying means; and

35 a fourth port for outputting a high-power-amplified

transmitting signal and receiving a signal transmitted from the outside.

4. The dualduplexer having a matrix structure as  
5 recited in claim 3, wherein the first port is matched with the second and third ports with different frequency characteristics and the first port is independent from the fourth port; the second port is matched with the first and fourth ports with different frequency characteristics and  
10 the second port is independent from the third port; the third port is matched with the first and fourth ports with different frequency characteristics and the third port is independent from the second port; the fourth port is matched with the third and second ports with different  
15 frequency characteristics and the fourth port it is independent from the first port.

5. A method for fabricating a dualduplexer having a matrix structure using an amplifier in common, comprising  
20 the steps of:

a) filtering a transmitting (Tx) signal inputted through a first port of a dualduplexer in a transmitting input unit (Tx\_1) of the dualduplexer and outputting a resultant signal to a low noise amplifier through a second  
25 port;

b) performing low noise amplification on the signal inputted to the low noise amplifier, performing high power amplification in a high power amplifier, and outputting a resultant signal to a third port of the transmitting output  
30 unit (Tx\_2) of the dualduplexer; and

c) radiating the signal inputted through the third port in the transmitting output unit (Tx\_2) of the dualduplexer to the outside through a fourth port by performing filtering.

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6. The method as recited in claim 5, further comprising a step of:

5 d) if a signal is received through the fourth port from the outside, filtering the received (Rx) signal in a receiving input unit (Rx\_1) of the duplexer, amplifying the filtered signal in the low noise amplifier through the second port and in the high power amplifier, filtering the amplified signal in a receiving output unit (Rx\_2) of the second duplexer through the third port, and radiating the  
10 filtered signal through the first port.

7. The method as recited in claim 6, wherein the first port is matched with the second and third ports with different frequency characteristics and the first port is  
15 independent from the fourth port; the second port is matched with the first and fourth ports with different frequency characteristics and the second port is independent from the third port; the third port is matched with the first and fourth ports with different frequency  
20 characteristics and the third port is independent from the second port; the fourth port is matched with the third and second ports with different frequency characteristics and the fourth port it is independent from the first port.